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PLANT IMMIGRANTS

No. 205 May, 1923

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329. Fruits and seeds of the gorli shrub of Sierra Leone (*Oncoba echinata*).
330. A hardy dwarf lemon from China (*Citrus limonia*).

Foreign Seed and Plant Introduction

EXPLANATORY NOTE

This circular is made up principally of notes received from agricultural explorers, foreign collaborators, and correspondents, concerning the more important plants which have been received recently by the Office of Foreign Seed and Plant Introduction. It also contains reports on the behavior of plants which have been introduced in previous years.

Descriptions appearing here are revised and later published in the Inventory of Seeds and Plants Imported,-- the permanent record of plant introductions made by this Office.

Plant Immigrants should be considered merely an ANNOUNCEMENT OF THE ARRIVAL OF PLANT MATERIAL. As a rule all material is propagated before being distributed; this may require several years.

The Annual Catalogue of New Plant Introductions describes briefly the plants available for distribution. Application for seeds or plants listed in Plant Immigrants may be sent at any time, however, and will be filed in the order of their receipt. When material is ready for distribution, these requests will be given first attention; if their number is sufficient to exhaust the available supply of a given species, it will not be included in the Annual Catalogue.

Plant breeders and experimenters who desire plants not available in this country are invited to correspond with this Office which will endeavor to secure the required material through its agricultural explorers, foreign collaborators, or correspondents.

DAVID FAIRCHILD
Agricultural Explorer in Charge,
Office of Foreign Seed and Plant Introduction.

Issued July 19, 1923. Washington, D. C.

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ALLOTEROPSIS SEMIALATA (Poaceae), 56786. **Cockatoo grass.** From Burringbar, New South Wales. Seeds presented by B. Harrison. "A native grass which becomes 2 to 3 feet high in sandy soil." (Harrison.)

"Cockatoo grass is excellent pasturage and of good seeding habit. It is leafy at the base." (Roland McKee.)

ALNUS NEPALENSIS (Betulaceae), 56636. **Alder.** From Yunnan, China. Seeds collected by J. F. Rock, Agricultural Explorer of the Bureau of Plant Industry. "(No. 6858. September 27, 1922.) A tree up to 70 feet high, with a trunk 3 to 4 feet in diameter, which is very common all over Yunnan at altitudes of 4,000 to 7,000 feet. It is a rapid grower, used chiefly for firewood, and appears to thrive in spite of the tall grass, 5 to 8 feet high, which surrounds it. I would recommend it strongly for planting in grassland where trees can not usually be grown." (Rock.)

AMYGDALUS PERSICA (Amygdalaceae), 56760. **Peach.** From China. Scions sent in by K. M. Gordon, South Shantung Industrial and Agricultural School of the American Presbyterian Mission (North), at the request of C. A. Reed, Bureau of Plant Industry. "(No. 4.) 'Fei peach.' From 90 li (about 30 miles) northwest of Taianfu, Shantung. This is the most famous peach of China; it is a clingstone, with the skin and flesh tinged with red." (Gordon.)

BROMUS UNIOLOIDES (Poaceae), 56638. **Grass.** From Auckland, New Zealand. Seeds presented by W. S. Hill, agricultural instructor, Seddon Memorial Technical College. "'Giant brome grass.' I made this selection at the Moumahaki Experimental Farm in 1913, and during the six generations through which it has passed it has exhibited the characters of a pure line. It has proved superior to the commercial prairie grass (*Bromus unioloides*) in yield and resistance to smut. The seed is heavier and retains its vitality well. The strain is likely to prove of great value as pasturage in regions of mild winters and on the lighter soils. The bulk of the growing from early autumn sowing is made during the winter and early spring." (Hill.)

BUCKLANDIA POPULNEA (Hamamelidaceae), 56637. From Yunnan, China. Seeds collected by J. F. Rock, Agricultural Explorer of the Bureau of Plant Industry. "(Nos. 7574, 7575. November 21, 1922.) A tall straight tree, 60 to 80 feet in height, of fine appearance, found near Kaotien, one day's journey north of Tengyueh, at an altitude of 6,000 feet. The broadly triangular leaves are dark green, and the yellow male flowers are in globose heads. This should be an ornamental lawn tree." (Rock.)

CANDOLLEA GRAMINIFOLIA (Candolleaceae), 56563. From Hobart,

Tasmania. Seeds presented by L. A. Evans, Secretary of Agriculture, Agricultural and Stock Department. An ornamental Australian plant with stiff grasslike leaves, sometimes 9 inches long and always growing in a tuft from the end of a very short stem, and with scapes 6 to 18 inches long bearing a simple raceme of pink flowers. (Adapted from Bentham, Flora Australiensis, vol. 4, p. 10.)

CASTANEA MOLLISSIMA (Fagaceae), 56761. **Chestnut.** From China. Scions sent in by K. M. Gordon, South Shantung Industrial and Agricultural School of the American Presbyterian Mission (North), at the request of C. A. Reed, Bureau of Plant Industry. "(No. 7.) From Wan Chia Chang, 45 li (about 15 miles) northwest of Changli, Chihli. This tree, the finest I saw in China, is reported to produce very large, sweet nuts." (Gordon.)

CASTANEA sp. (Fagaceae), 56677. **Chestnut.** From Yunnan, China. Seeds collected by J. F. Rock, Agricultural Explorer of the Bureau of Plant Industry. "(No. 7742. December 1, 1922.) A tree 60 to 100 feet tall with trunks 4 to 5 feet in diameter, which grows on the summit of the Salwin Ridge. The leaves are large, broadly ovate, coarsely serrate, glossy above and silvery beneath. The burs are in spikes, and the nuts are small, something like those of the chinquapin, and very sweet and palatable. This is identical with the chestnut sent from the Talifu-Yangpi Trail, No. 6682 (S.P.I. No. 56080)." (Rock.)

DAHLIA MAXONII (Asteraceae), 56665. **Dahlia.** From Chimaltenango, Guatemala. Seeds presented by W. Cameron Townsend. This beautiful plant is extremely abundant, both wild and cultivated, in many parts of the Guatemalan highlands at altitudes of 3,000 to 7,000 feet. The stems sometimes reach 15 or even 18 feet in height, and become quite woody toward the base. The slender branches bear the clusters of nodding flowers, some of which measure 4 or 5 inches across. When brought into cultivation around the huts of the natives the species seems to lose its stability, and in place of the single lilac-pink flowers appear double pink and double white forms, and less commonly, single white varieties. This dahlia is subtropical in its requirements and should succeed in southern Florida, provided suitable soil conditions are found. (Adapted from Journal of Heredity, vol. 11, pp. 265-268.)

DIOSCOREA TRIFIDA (Dioscoreaceae), 56660. **Yampi.** From Cristobal, Canal Zone. Tubers presented by James E. Lewis, manager, Hotel Washington. "This yampi is usually of even form and somewhat club-shaped, and the tubers are commonly 4 to 10 ounces in weight; the inner skin is pink. The flesh is white, but often becomes slightly grayish when cooked. The flavor is much like that of the white potato, but the yampi has in addition an agreeable sweetness." (R. A. Young.)

DIOSPYROS KAKI (Diospyraceae), 56762. **Kaki.** From China. Scions sent in by K. M. Gordon, South Shantung Industrial and Agricultural School of the American Presbyterian Mission (North), at the request of C. A. Reed, Bureau of Plant Industry. "(No. 3.) 'Honey persimmon.' From Nan Tui Shou, 110 li (about 35 miles) southeast of Tsinanfu, Shantung. The skin slips off the small red fruits when they are ripe; they are very sweet." (Gordon.)

EREMOCITRUS GLAUCA (Rutaceae), 56700. **Australian desert kumquat.** From Dundas, New South Wales. Seeds presented by Herbert J. Rumsey. "This is one of the most interesting of all citrus fruits and one which, curiously enough, has never yet received adequate attention from botanists or horticulturists. It was first mentioned by Leichardt, the German explorer, to whom we owe much of our knowledge concerning the interior of the deserts of northeastern Australia. It is a shrub or small tree from 12 to 15 feet high, with a trunk 2 to 6 inches in diameter. It has small but thick, leathery leaves of gray-green, and one is struck by the scantiness of the foliage. The flowers are small and the fruits about half an inch in diameter. An agreeable beverage is made from the acid juice and a fair preserve may be made out of the fruit. The peel has the sweetish flavor of the kumquat. It is known in Australia as the native lemon. The plant was described botanically in a footnote to Lieut. Col. Thomas Livingston Mitchell's 'Journal of an Expedition into the Interior of Tropical Australia in Search of a Route from Sydney to the Gulf of Carpentaria.' This plant was discovered on October 17, 1846, not far from Lieut. Col. Mitchell's camp, near the juncture of the Maranoa and Merevale Rivers, in the southern limit of Queensland, Latitude 26° S. Decidedly cold weather was encountered near this point, in some cases the ice being so thick that it had to be broken in the morning before the horses could drink. It seems quite probable from this that the plant grows in a region where the temperature occasionally falls to 10° F. and in rare cases nearly to zero. It is the hardiest of all evergreen citrus fruits and is very promising for use in breeding new and hardy types." (W. T. Swingle.)

EXOCARPUS CUPRESSIFORMIS (Santalaceae), 56568. From Hobart, Tasmania. Seeds presented by L. A. Evans, Secretary of Agriculture, Agricultural and Stock Department. Usually a tree about 20 feet high, with very numerous green, rigid, wiry, apparently leafle ss branches; the leaves are reduced to minute scales. The flowers are very small, appearing in short spikes; usually only one of these flowers is fertilized, and the small roundish nut is borne on a red succulent stem which is eaten by the natives. The close-grained, handsome wood is used for cabinet work and for tool handles. Native throughout Australia. (Adapted from Maiden, Useful Native Plants of Australia, p. 30,

and from Bentham, Flora Australiensis, vol. 6, p. 229.)

GARCINIA spp. (Clusiaceae), 56698 and 56699. From Brisbane, Queensland. Seeds presented by C. T. White, Government botanist.

56698. GARCINIA GIBBSIAE. A wild relative of the mangosteen which grows in forests in the Bellenden Ker Hills, at an altitude of about 2,000 feet. The leaflets are oval, with mucronate tips, and the flowers, in clusters of two or three, are green, later turning brown. The fruit is not known. (Adapted from Journal of Botany, vol. 55, pp. 298, 302.)

56699. GARCINIA MESTONI. An erect, slender, graceful tree, 20 feet or more in height, with drooping branches and glossy, dark-green leaves. The roundish fruits, 2 or 3 inches in diameter, are of a bright olive green, with very juicy pulp of a pleasant acid flavor. The tree grows wild in the Bellenden Ker Hills at an altitude of about 2,000 feet. (Adapted from Report of the Government Expedition to Bellenden-Ker Range, Queensland, 1889, p. 31.)

HOLCUS SORGHUM (Poaceae), 56612 and 56613. **Sorghum.** From Nioka, Ituri, Belgian Congo. Seeds presented by Jean Claessens, Ferme Experimentale du Haute Ituri. Quoted notes by Mr. Claessens.

56612. "(October, 1922.) A variety grown by the Bolos, but not by the Walendi."

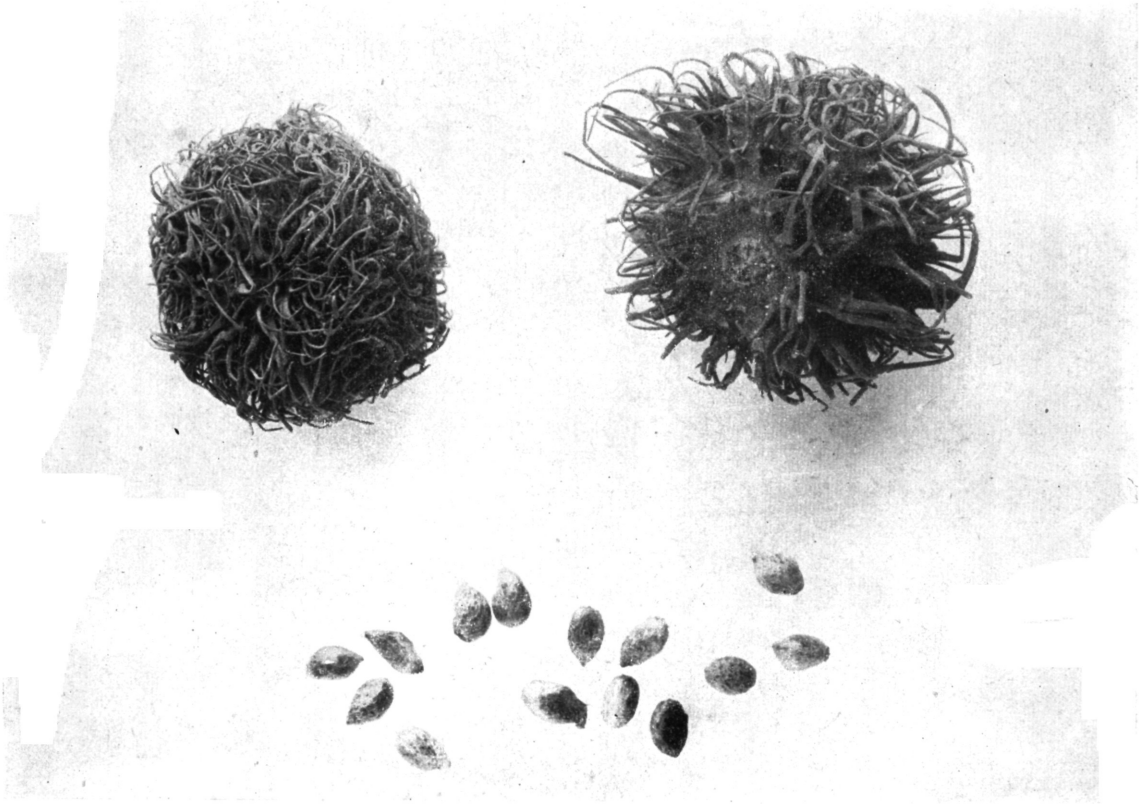
56613. "(October, 1922.) A variety grown by the Walendi, probably a mixture."

HORDEUM spp. (Poaceae), 56609 and 56610. **Barley.** From Ayr, Scotland. Seeds presented by McGill & Smith. Quoted notes by McGill & Smith.

56609. HORDEUM DISTICHON PALMELLA. "Recent trials of our new barley Golden Pheasant show that it is a better yielder than Plumage Archer, and we think it should be well adapted for the United States, as it is hardy and tillers well. It is a cross between Goldthorpe, one of the best British brewers' varieties, and Pfauen, the best brewers' variety in Germany. It is a big yielder."

56610. HORDEUM INTERMEDIUM HAXTONI. "Our 6-rowed barley is still in the experimental stage. It will probably never be anything but a feeding barley because of the amount of small seeds. The center rows are small twisted seeds, while the two side rows are equal to any other variety; the small seeds could be used for sowing. This variety was produced by crossing two 2-rowed barleys."

MALUS SYLVESTRIS (Malaceae), 56693. **Apple.** From Elstree, Herts, England. Plant presented by Hon. Vicary Gibbs, Aldenham House Gardens. Var. aldenhamensis. "This is a chance hybrid which occurred at Aldenham, and is considered the finest of all the red-flowered crab apples. It flowers three weeks later than *Malus niedzwetzkyana* and *M. purpurea,* and,



FRUITS AND SEEDS OF THE GORLI SHRUB OF SIERRA LEONE.

(*Oncoba echinata* Oliver; S. P. I. No. 55465.)

These seeds contain in large amount the chaulmoogric acid which has proved so efficacious in the treatment of leprosy. Mr. King Church, who sent the seeds, reports the species to be a wild shrub scattered through the forests of Sierra Leone, West Africa. Presumably it requires a shorter time than a forest tree in which to bear fruit, and for this reason it deserves the consideration of those experimenters who are establishing plantations for the production of chaulmoogric acid. (Photographed, natural size, by E. L. Crandall, Photographic Laboratory, November 14, 1922; P28005FS.)

Pl. 330.

A HARDY DWARF LEMON FROM CHINA.

(*Citrus limonia* Osbeck; S. P. I. No. 23028.)

Frank N. Meyer, Agricultural Explorer of the Bureau of Plant Industry, sent from China in 1908 a dwarf lemon, considered promising for house culture in the United States. Tests in various parts of this country have shown that the variety is not only of value for this purpose but that it is much hardier than the commercial varieties now grown and that its fruit is of excellent quality. Its introduction may, therefore, result in extending the zone in which lemons can be commercially cultivated. (Photographed by Peter Bisset at the Plant Introduction Garden, Brooksville, Fla., October 5, 1921; P28182FS.)

unlike the former, bears in autumn a large number of large dark-red fruits." (Edwin Beckett, superintendent, Aldenham House Gardens.)

MALUS SYLVESTRIS (Malaceae), 56746-56748, 56751, 56753. **Apple.** From Damascus, Syria. Scions presented by Charles E. Allen, American consul. "These apples are grown in the Plain of Zebdani, about 25 miles northwest of Damascus, at an altitude of a little above 3,500 feet. The apples of this region, though small, are known for their delicious flavor and bring good prices in the markets of Syria and Palestine. The methods of culture are primitive and it is believed that the quality and size of the apples could be greatly improved by modern methods." (Allen.)

56746. No. 1. "Dershawi."
56747. No. 4. "Hamod."
56748. No 6. "Feudy."
56751. No. 9. "Iraki."
56753. No. 12. "Zebdani."

NEPHELIUM MUTABILE (Sapindaceae), 56781. **Pulasan.** From Buitenzorg, Java. Seeds presented by the director, Botanic Garden. "'Pulasan.' A Malayan tree which is similar to the rambutan in appearance, but differs in the fruit and in the leaves being gray beneath. The fruit is larger than that of the rambutan, and is a deep purple-brown with short blunt processes. According to Ridley, the flavor is decidedly superior to that of the latter fruit." (Macmillan, Handbook of Tropical Gardening, 2d ed., p. 176.)

PASPALUM SCROBICULATUM (Poaceae), 56789. **Kodo millet.** From Burringbar, New South Wales. Seeds presented by B. Harrison. "A native grass about a foot high, relished by all kinds of livestock." (Harrison.)

An erect annual grass, averaging 2 feet in height, native to India, were it is also extensively cultivated for the edible grain. The grain is poisonous, however, unless kept for a number of years. Cattle are fond of the grass when it is young; at the time of ripening it is poisonous to stock. (Adapted from Watt, Dictionary of the Economic Products of India, vol. 6, pt. 1, p. 111.)

PYRUS spp. (Malaceae), 56689 and 56690. **Pear.** From Bedford, England. Plants presented by Laxton Bros. Quoted notes from Catalogue of Laxton Bros.

56689. PYRUS sp. "'Superb.' A hybrid between 'Beurre Superfin' and 'Williams.' A very early dessert pear of fine flavor, partaking of the good qualities of both its parents, but ripening earlier than 'Williams.'"

56690. PYRUS sp. "'Beurre Bedford.' A hybrid between 'Marie Louise'

and 'Durondeau.' The fruit, which is as large as 'Marie Louise,' and borne as freely as 'Conference,' is pear shaped, tapering at the end with a long stalk. The skin is yellow, marked with russet-brown and crimson, and the juicy melting flesh is of very fine flavor. This is superior tó any other October pear, and a very heavy cropper."

PYRUS sp. (Malaceae), 56759. **Pear.** From Shantung, China. Scions sent in by K. M. Gordon, South Shantung Industrial and Agricultural School of the American Presbyterian Mission (North), at the request of C. A. Reed, Bureau of Plant Industry. "(No. 5.) 'Ya li' (Duck pear). From 35 li (about 10 miles) northwest of Techow. The fruits are large, with thin, smooth, yellow skin, and white, juicy, sweet flesh. This variety is a good keeper." (Gordon.)

PYRUS spp. (Malaceae), 56765 and 56766. **Pear.** From China. Scions sent in by K. M. Gordon, South Shantung Industrial and Agricultural School of the American Presbyterian Mission (North), at the request of C. A. Reed, Bureau of Plant Industry. Quoted notes by Mr. Gordon.

56765. PYRUS sp. "(No. 2.) 'Laiyang.' A variety from Laiyang, Shantung. The fruit is large and dark skinned, and said to be very fine grained, sweet, and juicy."

56766. PYRUS sp. "(No. 6.) 'Peking White.' From Tungshan, 35 li (about 10 miles) northwest of Peking. The fruit is small and round, with light lemon-yellow skin, and fine grained, sweet flesh."

RUBUS spp. (Rosaceae), 56691 and 56692. From Bedford, England. Plants presented by Laxton Bros. Quoted notes from Catalogue of Laxton Bros.

56691. RUBUS sp. **Dewberry.** "'Newberry.' This is similar to the Logan blackberry, but darker and sweeter."

56692. RUBUS sp. **Blackberry.** "'Pollards.' A blackberry which ripens later than 'Edward Langley,' but is a strong grower and better adapted to exposed situations. The fruit clusters are very large, and the berries are rich in flavor and very juicy. This variety is strongly recommended for making jelly and jam."

SOLANUM TUBEROSUM (Solanaceae), 56678. **Potato.** From Bogota, Colombia. Tubers presented by Brother Ariste Joseph, Instituto de la Salle. "These potatoes are from the Paramo de Guasca, where this curious variety is grown by the ancient tribe known as the Chibchas." (Ariste.)

STIPA SEMIBARBATA (Poaceae), 56570. **Grass.** From Hobart, Tasmania. Seeds presented by L. A. Evans, Secretary of Agriculture, Agricultural and Stock Department. A perennial grass with stems 2 to 3 feet high,

which is abundant in dry soil throughout Tasmania and also in many parts of Australia. The leaves are narrow, often almost subulate, and the panicles, 6 to 10 inches in length, are very dense. (Adapted from Bentham, Flora Australiensis, vol. 7, p. 569.)

STRANVAESIA DAVIDIANA (Malaceae), 56695 and 56696. From Elstree, Herts, England. Plants presented by Hon. Vicary Gibbs, Aldenham House Gardens. Quoted notes by Edwin Beckett, superintendent, Aldenham House Gardens.

56695. "This may be trained as a small standard tree, otherwise it will be of bush form. The foliage is evergreen, and the terminal corymbs of white flowers are soon followed by the handsome bunches of scarlet fruits."

56696. "This yellow-fruited form was raised from the same batch of seeds as the preceeding (S.P.I.No. 56695),but the fruits were found to have a distinct orange-yellow color. Seedlings of this may revert to the original type."

TACSONIA MOLLISSIMA (Passifloraceae), 56593. **Curuba.** From Bogota, Colombia. Seeds presented by Brother Ariste Joseph, Instituto de la Salle. "This species is more commonly cultivated on the mesa of Bogota than any of the several others whose fruits are also known as curuba. The vine is not quite so ornamental as that of some other species, but the fruit is considered one of the best. It is slender oblong-oval, 2 to 4 inches long, and slightly more than an inch thick with a thin, leathery pericarp (not brittle as in most other species) inclosing many black seeds, each surrounded by an orange-colored, juicy aril. The flavor is sprightly and aromatic. While much eaten out of hand, the fruit is perhaps best when prepared in the form of 'crema de curuba' or when made into an ice. Certainly the curuba is one of the most popular fruits of Bogota." (Wilson Popenoe.)

TARAKTOGENOS KURZII (Flacourtiaceae.), 56633. From Upper Chindwin, Northwest Burma. Seeds collected by J. F. Rock, Agricultural Explorer of the Bureau of Plant Industry. Received February 28, 1923. Collected in January 1923 near the jungle village of Kyokta, Upper Chindwin. These seeds are from the same forest as those sent in 1921." (Rock.)

"The world wide demand for chaulmoogra oil, a product used in the successful treatment of leprosy, has rendered essential the thorough study of the various trees from which it can be obtained and has made highly important their establishment in all parts of the world where leprosy occurs. To these ends the Department of Agriculture has twice sent Mr. Rock to the native home of the true chaulmoogra tree, *Taraktogenos kurzii,* and has secured through him considerable quantities of seed. The shipment received under the present number reached Washington safely

and several thousand seedlings are being grown in the greenhouses at Bell, Md. These will be distributed as soon as they are large enough to withstand shipment." (Wilson Popenoe.)

ZEA MAYS (Poaceae), 56447-56449. **Corn.** From Cuenca, Ecuador. Seeds presented by Dr. Federico Malo. Quoted notes by Dr. Malo.

56447. "(Vicinity of Valle, province of Azuay.) 'Maiz blanco,' the largest and best variety of this region."

56448. "'Maiz jesuita.' A variety of the quality of 'Maiz blanco,' but with pink kernels. From this the natives make 'Mote,' the best one of their favorite dishes."

56449. "(Azogues, province of Canar, and province of Azuay. December, 1922.) 'Maiz zhima,' a very resistant variety with pearl-colored kernels."

Notes from Agricultural Explorers in the Field.

J. F. Rock writes from Yunlungchou, China, March 22, 1923:

"Just to let you know that I am among the living and well. I finally reached Yunlungchou - the Dragon Cloud City situated on the Hpi Kiang. The trip to this place was a revelation to me. I went by a hitherto untrodden path, and path it may well be called, for we had great difficulty in getting our mules and loads across, and many times the loads had to be carried by men over dangerous places. I think that no one living can imagine the grandeur of the scenery and terribleness of the road, unless he has actually seen and experienced it. On the 19th of March I crossed from the Salwin Watershed to that of the Mekong over mountains, the grandeur of which words cannot picture. The trail crossed the Mekong Watershed at 11,800 feet over snow and through fir forests with bamboo canebrake. I got some beautiful photos, showing those mighty monarchs of the forest and the depths of the Mekong Valley. The trail leading down into the very canyon of the Mekong is like a spiral stairway, - such curves and steepness that at the angles the levels of the road differ fifteen feet. You can imagine what these turns are, and you look down 7,000 feet. It takes steady nerves and good hobnailed shoes to stick to that trail. I wish you could have seen the rhododendrons, beautiful, gorgeous, all colors of the rainbow, many not in flower, as it is still early for them at such heights. Now, thanks to the gods, we have crossed all the mighty rivers which flow close together in tremendous chasms. The depths of the chasms increase farther north as the mountains increase in height. We crossed the Salwin at Hsuehshanting ('Snow-mountain peak') at 11,000 feet, descended over precipitous spurs and ridges down to 2,300 feet elevation and stopped at a place called Kantinggai. The tropical heat was intense, and, since I have been living at such high altitudes, I felt it

very much indeed. There is no bridge over the Salwin, and we crossed, mule, loads, men, etc., in a ferry, taking 3 hours to do it. Then came an ascent the steepness of which beggars description, - limestone bluffs with loose bowlders, with burning grass everywhere which made the heat still more intense. These fires are started by hill tribes such as the Lolos, Minchias and Miaos whom the Chinese have driven into the hills where they eke out a precarious existence. I have found the people on this trip very civil, indeed, quite friendly. I only wish you could have had a glimpse of us all as we entered the hamlet of Wamangai, at the foot of some mighty limestone crags in a narrow canyon. It happened to be market day, and there were about 300 extra people in the place, mostly tribes people from the hills, in various costumes. As we approached, we were soon surrounded by a mob and progress was almost impossible. It was, however, a good-natured mob which had never seen a foreigner. We went to a small temple of which this village boasts, followed by the mob. There was not a soul on the market and the open space in front of the temple was one seething mass of humanity; head on head they stood and from the temple steps I took two pictures of them. The worst was that they remained. The temple was one narrow, long dark room with a row of fierce looking gods on an earthen brick shelf; the front was one row of wooden doors, all latticed. Through every hole of the lattice work there peeped a face, and they strained their eyes and necks to get a glimpse of me. I felt like an animal in a zoo. There was no place to hide, and so I escaped and wandered about among the groves on the neighboring hillsides, until such time as I thought that at least the visiting crowd had gone home to their mountain fastnesses. When I returned I found the two village headmen had brought presents of red hill rice, a ham, and a smoked front leg of a pig. I returned the compliment with two tins of condensed milk. I suppose they liked the tin can better than the milk.

"We were off at daybreak and spent the next night at a place called Tsaochiang, elevation 8,000 feet. In front of us was the mighty Mekong Range, snow covered in its upper slopes. As already stated we crossed it at 11,800 feet elevation, wading through deep snow and through graceful, slender bamboo forest, with rhododendrons and mighty fir trees. Below the fir belt was the most glorious Tsuga forest I have ever seen in all my life, - snow in patches everywhere. The somberness of the forest was somewhat brightened by beautiful rhododendrons. A thousand feet below the summit we found a tiny temple amidst a huge grove of these mighty Tsuga trees 4 feet in diameter. Here I stopped for lunch; the air was most invigorating, and the scenery indescribably beautiful, - a place for gods to dwell in. I went to a quiet spot in the forest (for our caravan had arrived and was - as usual - noisy) and there I gorged myself on this wonderful scenery, - deep, deep down below the Mekong, a narrow brown band, above me the snow-covered crest

of the Mekong prison range, its sides extending in precipitous buttresses to the depths below, tree on tree, like the masts of ships in a crowded harbor, - the mighty snow-capped peaks in the distant north glittering in the sunlight, and there I thanked the gods for being alive, well, and able to enjoy the glories of nature.

"Tomorrow we are off for Chienchuan, a six days' journey, and thence it will only take two days to Likiang to my base camp. From here on it is unsurveyed territory, and the map is a big blank. More revelations to come. Now I will close with the hope of being able to write to you soon from Likiang, telling you of our safe arrival."

OFFICE OF FOREIGN SEED AND PLANT INTRODUCTION
BUREAU OF PLANT INDUSTRY
UNITED STATES DEPARTMENT OF AGRICULTURE

Washington Scientific Staff.

Dávid Fairchild, Agricultural Explorer in Charge.
Wilson Popenoe, Agricultural Explorer Acting in Charge.

P. H. Dorsett, Plant Introducer, Introduction Gardens; Peter Bisset, Plant Introducer, Experimenters' Service; B. T. Galloway, Consulting Specialist; H. C. Skeels, Botanist, Seed Collections and Herbarium; R. A. Young, Plant Introducer, Dasheens and Tropical Yams; D. V. Lumsden, D. C. Peattie, and C. C. Thomas, Assistant Plant Introducers; Paul Russell, Junior Plant Introducer; Patty Newbold, Junior Botanist; E. L. Crandall, Assistant, Photographic Records.

Plant Introduction Garden Superintendents and Propagators.

D. A. Bisset, Superintendent, Bell, Md. (P. O. Glenn Dale, Md.), Edward Goucher, Propagator; Henry Juenemann, Superintendent, Bellingham, Wash.; E. N. Carlson, Acting Superintendent, Brooksville, Fla.; W. A. Patten, Superintendent, Chapman Field, Fla. (P. O. Coconut Grove, Fla.); J. E. Morrow, Superintendent, Chico, Calif., Henry Klopfer, Propagator; Edward Simmonds, Superintendent, Miami, Fla., Charles H. Steffani, Propagator; E. J. Rankin, Superintendent, Savannah, Ga.

Special Collaborators.

Robert H. Forbes, Kulikoro, French West Africa; A. C. Hartless, London, England; E. W. D. Holway, Faribault, Minn.; Barbour Lathrop, Chicago, Ill.; Dr. H. L. Lyon, Honolulu, Hawaii; Henry Nehrling, Naples, Fla.; Dr. A. Robertson Proschowsky, Nice, France; J. F. Rock, Yunnan, China; Charles T. Simpson, Littleriver, Fla.; Dr. L. Trabut, Algiers, Algeria; Dr. William Trelease, Urbana, Ill.; E. H. Wilson, Jamaica Plain, Mass.